

SEMENOV, B. N.

Dark chamber for the VEKS-01 vectorelectrocardioscope. Grud.
khir. no.2:109-110 '62. (MIRA 15:4)

1. Iz kliniki detskoy khirurgii (zav. - chlen-korrespondent
AMN SSSR prof. S. D. Ternovskiy[deceased]) I. Moskovskogo
meditsinskogo instituta imeni Pirogova i detskoy bol'nitsy imeni
Filatova (glavnyy vrach L. A. Vorokhobov)

(VECTORCARDIOGRAPHY--EQUIPMENT AND SUPPLIES)

SOV/137-59-3-6064

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 160 (USSR)

AUTHOR: Semenov, B. P.

TITLE: The Technology of Hard Surfacing of Cutting Tools With High-speed Steel (Tekhnologiya izgotovleniya rezhushchego instrumenta naplavkoy bysrrorozhushchey stalyu)

PERIODICAL: Byul. tekhn.-ekon. inform. Sovnarkhoz Stalinskogo ekon. adm. r-na, 1958, Nr 1-2, pp 28-30

ABSTRACT: The cutting edges of cutting tools manufactured at the Kramatorsk machine-building plant are surfaced with high-speed steel. Surfacing is performed with electrodes after the tool has been preliminarily heated to a temperature of 650°C. The electrode rods, 5-8 mm in diameter, are made of high-speed steel of the R-18 type. The electrode coating has the following composition: 2% of argen-tous graphite, 10% Fe-Ti, 6% Fe-Si, 2% Fe-Mn, 8% Fe-Cr, 26% CaF₂, and 46% of commercial chalk. Water glass of a density of 1.23-1.25 is employed as a binder in a quantity equivalent to 25-30% of the weight of the dry charge. Depending on the diameter of the rod, the thickness of the coating varies from 1.0 to 1.6 mm. After drying in air for a period

Card 1/2

SEMEIOV, B.P.

Means of increasing the safety of work on a demountable
tower. Elek.i topl.tiaga 3 no.11:33 N '59. (MIR. 13:3)

1. Inzhener po kontaktnoy seti, stantsiya Shumikha, Yuzhno-
Ural'skoy dorogi.
(Electric railroads--Safety measures)

BAKUTKIN, A.B.; SEMENOV, B.S.; PANTAYEV, N.F., inzhener, retsenzent;
BOLDIN, G.M., inzhener, retsenzent.

[Operation and maintenance of measuring apparatus and automatic
regulators in petroleum refineries] Eksploatatsiya i remont izmeritel'-
nykh priborov i avtomaticheskikh reguliatorov na neftezavodakh.
Moskva, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry,
1953. 264 p. (MLRA 7:7)

(Measuring instruments--Maintenance and repair) (Petroleum--
Refining) (Automatic control)

GVOZDETSKIY, L.A.; KAZ'MIN, G.I.; KASATKIN, V.A.; SEMENOV, B.S.

At the petroleum refineries of the U.S.A. Khim.i tekhn.topl.i
masel 6 no.6:68-72 Je '61. (MIRA 14:7)
(United States—Petroleum refineries)

KAZ'MIN, Grigoriy Ivanovich; GVOZDETSKIY, Lev Andreyevich; KASATKIN,
Viktor Aleksandrovich; SEMENOV, Boris Sergeyevich;
YENISHERLOVA, O.M., ved. red.; BASHMAKOV, G.M., tekhn. red.

[Petroleum refineries of the U.S.A.] Neftepererabatyvaiushchie
zavody SSHA. Moskva, Gostoptekhizdat, 1962. 332 p.
(MIRA 15:10)

(United States--Petroleum--Refineries)

SELENOV, B. T.

Archangel Province - Beavers

Reacclimatization of the river beaver in the Archangel Province Priroda 41, no. 5, 1952

Monthly List of Russian Accessions, Library of Congress, August 1952. UNCLASSIFIED.

SEMENOV, B.T.

Biological characteristics of the beaver during the winter in
Archangel Province. Trudy VNIIO no.13:62-79 '53. (MLRA 7:5)
(Archangel Province--Beavers) (Beavers--Archangel Province)

SEMENOV, B.V.

CAND MED SCI

Dessertation: "Acute Intestinal Obstructions. According to Data From Podol'sk
City Hospital."

21 Jun 49

Central Inst for the Advanced Training of Physicians

SO Vecheryaya Moskva
Sum 71

SEMENOV, B.V., kandidat meditsinskikh nauk.

Spontaneous rupture of the uterus in seven-months pregnancy.
Sov.med.18 no.1:36 Ja '54. (MJRA 7:1)

1. Iz khirurgicheskogo otdeleniya (zaveduyushchiy - kandidat meditsinskikh nauk N.I.Mashtakov) Podol'skogo filiala Moskovskogo oblastnogo nauchno-issledovatel'skogo klinicheskogo instituta im. M.F.Vladimirskogo.
(Uterus--Rapture) (Pregnancy)

SEMENOV, B.V., kandidat meditsinskikh nauk

A case of ectopic pregnancy in the free abdominal cavity. Sov.med.
21 no.3:128 Mr '57. (MIRA 10:7)

1. Iz Podol'skoy gorodskoy bol'nitsy No.1 (glavnyy vrach V.G.Brikman)
(PREGNANCY, ECTOPIC, case reports
abdom.)

KOLODUB, G.K.; SEMENOV, B.V.

Ways to increase labor productivity in the "Kirov" Mine no.3
of Karagandaugol' Combine. Ugol' 35 no.7:20-23 J1 '60.
(MIRA 13:7)

1. Nachal'nik Shakhty No.3 im. Kirova kombinata Karagandaugol'
(for Kolodub). 2. Nachal'nik planovogo otdela Shakhty No.3
im.Kirova kombinata Karagandaugol' (for Semenov).
(Karaganda Basin--Coal mines and mining--Labor productivity)

SLUCHANKO, E.G.; SEMENOV, B.V., gornyy inzh.-ekonomist; KHABAROVA, A.S., kand.
ekonom. nauk

Efficiency of introducing the KM-100 hydraulic stoping complex.
Ugol' 40 no.6:58-61 Je '65. (MIRA 18:7)

1. Glavnyy inzh. shakht'y No.23 kombinata Karagandaugol' (for Sluchanko).
2. Shakhta No.23 kombinata Karagandaugol' (for Semenov). 3. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki (for Khabarova).

SEMENOV, B.V., inzh. (Karaganda)

Increase in mine profitability. Ugol' 38 no.1:48-51 Ja '63.
(MIRA 18:3)

SEMENOV, B.V., inzh.

Some results of introducing load standard in stopes. Ugol' 39
(MIRA 18:2)
.11:48-50 N '64.

1. Shakhta No.23 kombinata Karagandaugol'.

SEMENOV, B.Ya.; KHANNANOV, Kh.M.

Tanning sole leather with synthetic tanning materials. Kozh:-
obuv.prom. 3 no.2:21-22 F '61. (MIRA 14 4)
(Tanning)

SEMENOV, B.Yu.; FROLOV, N.S.

Automatic number printing unit. Biul.tekh.-ekon.inform.Gos.nauch.-
issl.inst.nauch.i tekh.inform. no.12:54-56 '63. (MIRA 17:3)

L 15165-66 EWT(d)/EWP(1) IJP(c) BB/CG/JXT(BF)

ACC NR: AP5027017

SOURCE CODE: UR/0120/65/000/005/0102/0105

AUTHOR: Semenov, B. Yu.; Frolov, N. S.

ORG: Joint Nuclear Research Institute (Ob'yedinennyy institut yadernykh issledovaniy)

TITLE: Analog address selectors for an output digit printer 16C, 11/

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 102-105

TOPIC TAGS: multichannel analyzer, digit printer

ABSTRACT: The development of a digit printer intended for a 256-channel analyzer is reported; the printer has a sequential storage and a double coding of numbers. The single selection of an address is ensured by a code-analog converter and by a special selection circuit that controls the logic of operations. Thus, the distinguishing feature of the new printer is the use of an analog circuit in the address unit instead of the conventional counter circuit. The new printer consists only of 1 trigger, 2 gates, 1 single-shot multivibrator, 1 sawtooth circuit, 1 voltage-ramp circuit, and 1 comparison circuit; this is much smaller than the amount of components required for a conventional 256-channel-serving printer. "In conclusion, the authors wish to thank A. N. Sinayev for his constant interest and help." Orig. art. has: 3 figures.

SUB CODE: 09 / SUBM DATE: 25Aug64 / ORIG REF: 004

fw
Card 1/1

UDC: 681.142.6

L 55899-65 EWT(d)/EED-2/EWP(1) Fq-4/Pq-4/Pk-4 LJP(c) BB/GG

UR/0286/65/000/009/0096/0096

ACCESSION NR: AP5015351

AUTHOR: Semenov, B. Yu.; Frolov, N. S.

TITLE: Address-selection analog device for digital output printers. Class 42, No. 170768

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 96

TOPIC TAGS: address selection device, digital output printer, address selection, computer component, address pulse

ABSTRACT: The proposed address-selection analog device for digital output printers contains a shaping circuit of linearly variable voltages, a shaping circuit of saw-tooth voltages, and a comparison circuit. It is designed to select one address pulse from a sequence for a given channel. For this purpose, each channel carries a monostable multivibrator of pulse delays for a half interval between channels, two coincidence circuits, and a trigger shaper with 1 and 0 inputs. Orig. art. has: 1 figure.

Card 1/2

L 55899-65
ACCESSION NR: AP5015351

ASSOCIATION: Ob'yedinennyi institut yadernykh issledovaniy (Joint Institute
for Nuclear Research)

SUBMITTED: 12Sep63

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: WJEC

ATD PRESS: 4034

Card 2/2

L 09463-67

ACC NR: ARG033770

SOURCE CODE: UR/0058/66/000/007/A029/A029

AUTHOR: Prokof'yev, Yu. P. ; Semenov, B. Yu. ; Sinayev, A. N. ; Frolov, N. S.

TITLE: Simple single-channel amplitude analyzer for the registration of rare events

SOURCE: Ref. zh. Fizika, Abs. 7A258

REF SOURCE: Tr. 6-y Nauchno-tekhn. konferentsii po yadern. radioelektron.
T. 3. Ch. 1. M., Atomizdat, 1965, 158-170

TOPIC TAGS: amplitude analyzer, potentiometer, pulse analyzer, pulse amplitude/EPP-09 recording potentiometer

ABSTRACT: An investigation is made of an amplitude analyzer, similar to the one described in the work of Birulev et al. (RZhFiz, 1964, 2A162), where the recording EPP-09 potentiometer is used as the amplitude analyzer. When the pulse comes to the analyzer input, the carriage of the recording potentiometer travels a distance proportional to the pulse amplitude, and then returns. The dead time and the number of the analyzer channels are determined by the characteristics of the record

Card 1/2

L 15249-65 EWT(1)/EEC(t) Feb IJP(c)/BSD/AFWL/ASD(a)-5/SSD/AS(mp)2/RAEM(i)/
 RAEM(c) GG
 S/0051/64/017/005/0734/0736
 ACCESSION NR: AP4043745

AUTHORS: Kata, M. L.; Nikol'skiy, V. K.; Pisarevskiy, A. N.; Poz-^B
nyak, A. L.; Semenov, B. Z.

TITLE: Optical absorption and electron paramagnetic resonance²¹ in
alkali halide crystals activated with nickel

SOURCE: Optika i spektroskopiya, v. 17, no. 5, 1964, 734-736

TOPIC TAGS: alkali halide, optical absorption, electron paramag-
 netic resonance, activated crystal, microwave absorption

ABSTRACT: The electron paramagnetic resonance spectra of single-
 crystal KCl and NaCl activated with NiCl_2 were measured as functions
 of the activator concentration and compared with the optical absorp-
 tion spectra. The purpose of the research was to ascertain the form
 in which the nickel enters into the NaCl crystal, whether the NiCl_2
 phase is present in such phosphors grown from a melt, and what opti-

Card 1/3

L 15249-65

ACCESSION NR: AP4048745

cal bands correspond to this phase. The EPR spectra were measured at room temperature and ~9700 Mcs with the aid of a spectrometer with high frequency modulation and automatic frequency control against the working cavity. The crystals measured 5 x 5 x 5 mm and were grown from the melt by the Kiropoulos method. The activator concentration ranged from 0.5 to 1.0 mol.%. The results show that no EPR is observed in NaCl-Ni crystals with low activator concentration. The threshold concentration was 0.03 mol.% for NaCl and more than 0.06 % for KCl. The microwave absorption increased noticeably with increasing activator concentration. In NaCl-NiCl₂ crystals with high activator concentration there is observed an NiCl₂ phase corresponding to an optical absorption band with maximum at 460 nm. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: None

Card 2/3

L 15219-65

ACCESSION NR: AP4048745

SUBMITTED: 16Jan64

SUB CODE: OP, IC

NR REF SOV: 004

ENCL: 00

OTHER: 005

Card 3/3

Semenov, B. Z.

phys

Atomic centers of nickel in sodium chloride-nickel phosphors. M. L. Kats and B. Z. Semenov (N. G. Chernyshevskii State Univ., Saratov). *Doklady Akad. Nauk S.S.S.R.* 16, 115-18 (1958). The effect of ultraviolet light and x-rays on the NaCl-Ni phosphor was investigated. The activator was introduced into the phosphor (approx. 10^{-3} g./g.) by means of electrolysis from a Ni anode at a

temp. just below the m.p. of the phosphor (method 1) (cf. Puriyanovich, *C.A.* 33, 7965; 43, 6870; 46, 8975) and by growing NaCl-Ni phosphor (method 2) from the NaCl-NiCl₂ melt. The plot of the absorption coeffs. of these phosphors showed a common max. in the absorption at 248 mμ. However, in the long-wave region the absorption differed: With phosphors from method 2 it ceased near 300-320 mμ, whereas the absorption of phosphors of method 1 had a long-wave slope extending up to the visible region of the spectrum. The excitation of these phosphors with ultraviolet 300-400 mμ source caused no fluorescence in type 2 and resulted in an orange-red fluorescence in type 1. Thus, the fluorescence of type 1 was not characteristic of Ni⁺⁺. The irradiation of type 2 phosphor with x-rays caused it to fluoresce. However, measurements of the spectral distribution of the excitation light showed that excitation even with the source corresponding to the selective adsorption of the activator (264 mμ) did not result in the fluorescence of phosphors of type 2 after the x-ray irradiation. This indicated the absence of recombination of freed electrons from F levels with the activation centers. Because the excitation of the center required approx. 5 e.v. and the energy corresponding to the F level was 2.65 e.v., it followed that the observed decrease in the absorption at 248 mμ was stipulated not by the ionization of the centers but by their capture of the free electrons. Therefore, the activation centers in the form of Ni⁺⁺ during the capture of free electrons, which were formed during the x-ray irradiation, were

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Kats, M.L. - SIMENOV, B.Z.
 anthracene fluoresce in a $C_{10}H_8$ and [cristor oil] (I) soln.,
 resp., was detd. with and without addn. of $PhNO_2$ (quench-
 er) photographically-photometrically. The quenching,
 I/I_0 as a function of the quencher concn. c , conforms well
 with the law: $I/I_0 = 1/(1 + kc)$. From the results of
 the measurements it can be concluded that in $C_{10}H_8$ soln.
 there exists a superposition of impact and resonance quench-
 ing, and in I soln. resonance quenching alone. Pure reso-
 nance quenching is compatible with the observations, but
 assumption of the superposition with $C_{10}H_8$ and negligible 2/2

Semenov B. Z.

AUTHORS: Kats, M.L. and Semenov, B.Z. 51-4-5-12/89

TITLE: Investigation of the Absorption and Luminescence Spectra of Alkali-Halide Crystals Activated with Nickel (Issledovaniye spektrov pogloshcheniya i lyuminestsentsii shchelochno-galoidnykh kristallov, aktivirovannykh nikelom)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 5, pp. 637-642 (USSR)

ABSTRACT: The authors studied absorption, emission and excitation spectra of alkali-halides activated with nickel and the changes in these spectra following X-ray irradiation. The authors also studied the effect of addition of the nickel activator in the form of various nickel compounds: NiCl_2 , NiBr_2 and Ni_2O_3 . The absorption spectra were measured using a quartz photoelectric spectrophotometer SF-4, and the fluorescence spectra were photographed using a spectrograph ISP-51 or the Koenig-Martens spectrophotometer. Excitation spectra were observed using a photomultiplier FEU-19. The crystals studied were irradiated with X-rays from a tube working at 60 kV and 4 mA. The absorption spectra were obtained for crystals of NaCl-Ni , KCl-Ni (Fig 1) and KBr-Ni (Fig 2) grown from melts of NaCl-NiCl_2 , KCl-NiCl_2 , KBr-NiBr_2 and $\text{KBr-Ni}_2\text{O}_3$ respectively. Fig 3 shows the

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Investigations of the Absorption and Luminescence Spectra of Alkali-Halide
Crystals Activated with Nickel 51-4-5-12/29

These centres are characterized by a non-uniform distribution, a different absorption (excitation) spectrum and very bright emission. Such KBr-Ni crystals possess all the listed type of centres after irradiation with X-rays. There are 7 figures and 9 references, 3 of which are Soviet, 1 English, 3 American and 2 German.

ASSOCIATION: Saratovskiy gosudarstvennyy universitet (Saratov State University)

SUBMITTED: July 8, 1957

Card 3/3

1. Alkali halides - Nickel activated
2. Alkali halides - Absorption spectra
3. Alkali halides - Emission spectra
4. Alkali halides - Excitation spectra

KATS, M.L.; NIKOL'SKIY, V.K.; PISAREVSKIY, A.N.; POZNYAK, A.L.; SEMENOV, B.Z.

Optical absorption and electron paramagnetic resonance in nickel-
activated alkali halide crystals. Opt. i spektr. 17 no.5:734-736
N '64. (MIRA 17:12)

CHUDIN, A.; SEMENOV, D.

Branch conferences of chemical industry workers of the Gorkiy and
Perm Economic Councils. Biul. nauch. inform.: trud i zar. plata 4
no.12:50-55 '61. (MIRA 15:1)
(Gorkiy Province--Wages--Chemical industries)
(Perm Province--Wages--Chemical industries)

SEMENOV, D.; MAZHAYEVA, A.

Path to profitable production. Sov. profsoiuzy 19 no.15:28-29
Ag '63. (MIRA 16:8)

1. Direktor sovkhoza "Prigorodnyy", Leningradskaya obl. (for
Semenov). 2. Predsedatel' rabocheho komiteta sovkhoza "Prigorodnyy",
Leningradskaya obl. (for Mazhayeva).
(State farms--Management)

SEMENOV, D.D., master sporta; PLEKHANOV, I.P., inzhener, redaktor; PAP-
MEL', S.V., redaktor; MANINA, M.P., tekhnicheskii redaktor.

[Construction and repair of bicycles] Ustroistvo i remont velosipeda.
Pod obshchei red. I.P.Plekhanova. Moskva, Gos. izd-vo "Fizkul'tura i
sport," 1954. 165 p. (MLRA 8:1)
(Bicycles and tricycles)

~~SEMENOV~~, Dmitriy Dmitriyevich, master sporta; PETROVSKAYA, Ye.K., redaktor
MANINA, M.P., tekhnicheskii redaktor

[The working principle and the repair of bicycles] Ustroistvo
i remont velosipeda. Izd. 2-oe, ispr. i dop. Moskva, Gos. izd-vo
"Fizkul'tura i sport," 1956. 202 p. (MLBA 10:4)
(Bicycles and tricycles)

SEMIKOV D.I.
ARKHANGEL'SKIY, Vsevolod Dmitriyevich; SEMENOV, D.I., red.; FEDOROV, B.M.,
red.izd-va; BACHURINA, A.M., tekhn.fed.

[Technology of wood flour] Tekhnologiya drevesnoi muki. Moskva,
Gosleshumizdat, 1957. 191 p. (MIRA 11:2)
(Wood flour)

KRYUKOV, P.A.; SEMENOV, D.I.

Bathometer with a pneumatic valve. Gidrokhim.mat. 29:289-291
'59. (MIRA 13:5)

1. Gidrokhimicheskiy institut Akademii nauk SSSR, Novocherkassk.
(Bathometer)

KRYAKOV, P.A.; SEMENOV, D.I.

Collector of fractions. Zav.lab. 27 no.2:222-223 '61.
(MIRA 14:3)

1. Gidrokhimicheskiy institut AN SSSR.
(Soil research)

SEMENOV, D.I.

Use of the DD-3 telemeter under the conditions found above the
Arctic Circle. Geofiz. razved. no.3:102-3 of cover '62. (MIRA 15:7)
(Russia, Northern--Telemeter)

SEMENOV, D.I.; TREGUBENKO, I.P.

Mobilization of Ce^{144} and Pb^{210} from the tissues of the organism
by the late use of diethylenetriamine pentaacetate. Biokhimiia
27 no.2:317-321 Mr-Apr '62. (MIRA 15:8)

1. Laboratory of Biophysics, Biological Institute of the Ural
Branch of Academy of Sciences of the U.S.S.R., Sverdlovsk.
(RADIOISOTOPES--PHYSIOLOGICAL EFFECT) (ACETIC ACID)

SEMENOV, D. I.

"The Mechanism of Action of Complexones," D. I. Semenov
Radiological Research of the Laboratory of Biophysics, Inst. of Biology, Ural
Affil of the Academy of Sciences USSR, Sbornik Rabot Laboratorii Biofiziki,
No. 1, 1957, pp. 4-128.

SEMENOV, D.I.

Effect of complexons on the behavior of metals and radiation emitters
in the organism. Trudy Inst.biol.UFAN. SSSR no.9:4-19 '57 (MIRA 11:9)

(CHELATING AGENTS)

(ACETIC ACID)

(RADIATION PROTECTION)

USSR/Pharmacology - Toxicology - Chelating Agents.

V

Abs Jour : Ref Zhur Biol., No 4, 1959, 18608

Author : Semenov, D.I., Tregubenko, I.P.

Inst : Institute of Biology Academy of Sciences USSR

Title : The Influence of Complexons on the Behaviour of Metals and Radiants in the Organism. II. Ethylenediamintetraacetate

Orig Pub : Tr. In-ta biol. Ural'skiy fil. AN SSSR, 1957, vyp. 9, 20-56

Abstract : In parenteral introduction of Na-EDTA or Ca-EDTA, preliminarily, simultaneously or subsequently to the introduction of radioactive isotopes of Zn, Y, Pb or Pl, the deposition of these metals in the bones and soft tissues is decreased; EDTA acts in the same way on the deposition of Ce^{144} in soft tissues. In connection with fast

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USSR/Pharmacology - Toxicology - Chelating Agents.

V

Abs Jour : Ref Zhur Biol., No 4, 1959, 18608

excretion of EDTA from the organism ($T_{\frac{1}{2}} = 50 - 90$ min), its preliminary introduction is effective only with an interval between the injections of EDTA and radiants of not more than 3-4 hours. The metal fixed by the tissues is little available to the action of a complexon; its effectiveness falls with the increase of the interval between the introduction of the radiant and the subsequent injection of EDTA. In early application of EDTA, the method of introduction has great importance; introvenous introduction is most effective. In late introduction, the speed of resorption of introduced EDTA does not play a role; during this period a considerably greater effectiveness of NaEDTA is manifested as compared with Ca-EDTA with respect to all metals fixed by the mineral phase of the bone (except plutonium). With respect to Co^{60} , EDTA is little effective in the early as well as in late period of application; with respect to radioactive strontium,

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USSR/Pharmacology - Toxicology - Chelating Agents.

V

Abs Jour : Ref Zhur Biol., No 4, 1959, 18608

it is completely ineffective. The basic means of excretion of chelate complexes is through the kidneys. Simultaneously, EDTA increases the resorption of the same radiants from the lungs and intestines. Repeated introductions of EDTA in late periods, when the radiants are already deposited in the tissues, also sharply increases their excretion with urine (except Co and Sr). With respect to Ce, unequal accessability to action of the complexon of various parts of the bone was discovered: Ce is mobilized fastest from the metaphysis, slower from the epyphysis and is practically not excreted from the diaphysis. -- B.A. Katsnel'son

Card 3/3

SEMENOV, D.I., Cand Biol Sci -- (diss) "Effect of EDTA ^{upm}
~~cations~~ exchange of cations in the organism." Sverdlovsk, 1958,
12 pp. (Ural ~~A~~ Affiliate of Acad Sci USSR. Inst of Biology)
150 copies (KL, 32-58, 107)

- 15 -

SEMENOV, D.I., kand.biol.nauk, red.; TREGUBENKO, I.P., kand.med.nauk,
red.; LATOSH, N.I., kand.khim.nauk, red.

[Complexons; synthesis, properties, and applications in biology
and medicine] Kompleksy; sintez, svoystva, primeneniye v biologii
i meditsine. Sverdlovsk, 1958. 166 p. (MIRA 13:3)

1. Akademiya nauk SSSR. Ural'skiy filial, Sverdlovsk. 2. Labora-
toriya biofiziki Ural'skogo filiala AN SSSR, g.Sverdlovsk (for
Semenov, Tregubenko). 3. Institut khimii Ural'skogo filiala Akade-
mii nauk SSSR (for Latosh).

(Complexons)

SEMENOV D.I.

EXCERPTA MEDICA Sec 14 Vol 13/11 Radiology Nov 59

2145. THE EFFECT OF COMPLEXONS ON THE DEPOSITION IN THE TISSUES AND THE EXCRETION FROM THE ORGANISM OF RADIOYTTTRIUM, RADIOCERUM AND PLUTONIUM (Russian text) - Semenoff D. I. and Tregoubenko I. P. Lat. of Biophys., Ural Branch of the Acad. of Scis of the USSR, Sverdlovsk - BIOKIMIYA 1958, 23/1 (59-65) Tables 3

Uramyldiacetate, ethylenediaminetetraacetate, 1:2-diaminocyclohexanetetraacetate, α -alaninediacetate, nitrilotriacetate, hexametaphosphate, ortho-, meta- and pyrophosphates were studied. The most effective complexons for accelerating the excretion of Y were uramyldiacetate and ethylenediaminetetraacetate, and for Ce and Pu, hexametaphosphate. The qualitative differences were manifested in an increased deposition of Y and Pu in soft organs and tissues under the influence of phosphates. These compounds markedly decreased deposition of Ce in the skeleton, in contrast with aminopolycarboxyl complexons. The stability constants and the rate of chelation, as well as the physicochemical state of the metal in body fluids are of primary importance in determining the effectiveness of complexons. These investigations indicate the possible role of the naturally occurring biocomplexons, such as amino-acids, phosphates, etc., in mineral metabolism. Hexametaphosphate, which is highly effective with respect to Ce and Pu, cannot be used in clinical practice in view of its high toxicity. Special attention must be paid to uramyldiacetate because of its superiority over ethylenediaminetetraacetate, which is used in the therapy of heavy metal and radioisotope poisoning.

27. 3000 46. 2209 1919 1565 1282 31117
S/626/60/000/012/001/010
D298/D303

AUTHORS: Tregubenko, I. P., and Semenov, D. I.

TITLE: The effects of complexones on the behavior of metals
and radioactive agents in the body. III. Phosphates

PERIODICAL: Akademiya nauk SSSR. Ural'skiy filial. Institut bio-
logii. Trudy. no. 12. Moscow, 1960. Sbornik rabot la-
boratorii biofiziki. no. 2: Problemy biofiziki, 5-22

TEXT: The first two reports in this series studied the change in
the behavior of radioactive agents in the body under the effects
of ethylenediaminetetraacetic acid (EDTA). The present report
gives the results of research carried out with complexones of the
phosphate group. The aim of the study was to find the most effec-
tive and, at the same time, the least toxic phosphates and to de-
termine the general pattern of their action on the behavior of ra-
dioactive agents in the body. The tests were carried out on white
rats. Polyphosphates and metaphosphates (sodium pyrophosphate, so-
dium tripolyphosphate, sodium hexametaphosphate, sodium tetrameta-

Card 1/4

The effects of complexones ...

31447
S/626/60/000/012/001/010
D298/D303

proved less effective than EDTA. In contrast to the latter, however, they increased the excretion of radioactive strontium from the skeleton. The authors conclude that trimetaphosphate, because of its low toxicity, lack of noticeable decomposition in the body and its ability to eluate radioactive strontium from the bone tissue, may have a possible clinical application and merits further research. There are 8 figures, 11 tables and 25 references: 9 Soviet-bloc and 16 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: R. E. Gosselin, E. R. Coghill, The stability of complexes between calcium and orthophosphate, polymeric phosphate and phytate. Arch. Biochem. a. Bioph., 1953, 45, 301; R. E. Gosselin, A. Rothstein, G. F. Miller, H. L. Berke, The hydrolysis and excretion of polymeric phosphate. J. Pharm. Exptl. Therap., 1952, 106, 180; R. E. Gosselin, C. S. Tibdall, R. Megarian, E. A. Maynard, W. L. Downs, H. C. Hodge, Metabolic acidosis and hypocalcemia as toxic manifestations of polymeric phosphates. J. Pharm. Exptl. Therap., 1953, 108, 117; C. B. Monk, The condensed phosphoric acids and their salts. VI. Dissociation constants of strontium trimetaphosphate and tetrametaphosphate. J.

Card 3/4

27.3800 also 2209, 2914 1565 1282 31448
S/626/60/000/012/002/010
D298/D303

AUTHORS: Semenov, D. I., and Tregubenko, I. P.

TITLE: The effects of complexones on the behavior of metals and radioactive agents in the body. IV. Comparison of the action of various complexones

PERIODICAL: Akademiya nauk SSSR. Ural'skiy filial. Institut biologii. Trudy. no. 12. Moscow, 1960. Sbornik rabot laboratorii biofiziki. no. 2: Problemy biofiziki, 23-33

TEXT: Modern research on biocomplexones indicates that they may assist in forming various physicochemical fractions of a particular radioactive metal in the blood and, consequently, may play a direct part in the mineral metabolism. Complexones may, therefore, have a practical use in helping to excrete radioactive agents and toxic metals from the body. The present work is a comparison of the effectiveness of various complexones studied in the authors' laboratory and also by other researchers. The authors collate their own experiments on white laboratory rats with the results of studies by Western and Soviet researchers. The study involves the effect
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S/626/60/000/012/002/010
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The effects of complexones ...

from the complex compounds by the particular cation. As regards strontium, those complexones such as citrate and the phosphates which form compounds of similar stability with both strontium and calcium proved most effective, whereas considerable more powerful complexones such as EDTA and nitrilotracetate, the stability of whose complexes with strontium is 1.5 - 2 orders of value lower than with calcium, had no effect. The differences in the action of the complexones on the behavior of the incorporated cation can be explained only by a strict appraisal of all the physicochemical constants of the complexones tested and the specific features of the living organism. The authors call for more research to determine the role of complexones in the mineral metabolism and, in particular, the significance of the constant of stability of the compounds which they form. There are 8 figures, 1 table and 18 references: 11 Soviet-bloc and 7 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: S.H. Cohn, J. K. Gong, Effect of chemical agents on skeletal content and excretion of injected Strontium-89. Proc. Soc. Exp. Biol. a. Med., 1953, 83, 550; H. Foreman, Th. Trujillo, The metabolism of

Card 3/4

BULDAKOV, L.A.; MOSKALEV, Yn.I.; SEMENOV, D.I.

Distribution of cerium and ruthenium in the organs of the rat
following their administration by inhalation. Med.rad. 5 no.6:
42-47 '60. (MIRA 13:12)

(CERIUM IN THE BODY)

(RUTHENIUM IN THE BODY)

SEMENOV, D.I.; TREGUBENKO, I.P.

Effect of complexons on the behavior of metals and radiation emitters
in the organism. Report No.4: Comparative effect of different
complexons. Trudy Inst. biol. UFAN SSSR no.12:23-33 '60.

(MIRA 14:1)

(Radiation protection)

(Chelating agents)

SEMENOV, D.I.

Complexons in biology and medicine. Analele chimie 15 no.1:103-114
Ja/Mr '60. (EE/I 9:8)

(Complexons) (Biology) (Medicine)

TREGUBENKO, I.P.; SEMENOV, D.I.

Effect of complexons on the behavior of metals and radiation emitters
in the organism. Trudy Inst. biol. UFAH SSSR no.12:5-22 '60.

(MIRA 14:1)

(Phosphates)

(Radiation protection)

(Chelating agents)

SEMIENOV, D.I., TREGUBENKO, I.P., (USSR)

"The Late Administration of Chelating Agents and the
Accelerated Excretion of Metals from the Body."

Report presented at the 5th Int'l. Biochemistry Congress,
Moscow, 10-16 Aug 1961.

SEMENOV, D.I.

Telescope-dioptr. Geofiz. razved. no.3:124-125 '61. (MIRA 17:2)

TREGUBENKO, I.P.; YASHUNSKIY, V.G.; SEMENOV, D.I.

Accelerating the elimination of yttrium, cerium, and lead from the organism with the aid of ethylenediaminetetraacetic acid, diethylenetriaminopentaacetic acid and the diaminediethyl ester of tetraacetic acid. Biokhimiia 26 no. 1:177-187 Ja-F '61.

(MIRA 14:2)

1. Laboratory of Biophysics, Institute of Biology, the Ural Branch of Academy of Sciences of the U.S.S.R., Sverdlovsk, and Union Research Chemo-Pharmaceutic Institute, Moscow.

(ACETIC ACID) (METALS IN THE BODY) (EXCRETION)

TREGUBENKO, I.P.; PODGORNAYA, I.V.; POSTOVSKIY, I.Ya.; SEMENOV, D.I.

Rapid elimination of yttrium, cerium, and lead from the organism with uramildiacetate, 1,2-diaminecyclohexanetetracetate and polyethylene-polyaminopolyacetate. Radiobiologiya 2 no.2:200-206 '62.

(MIRA 15:4)

1. Laboratoriya biofiziki i Institut khimii Ural'skogo filiala
AN SSSR, Sverdlovsk.

(RADIOISOTOPES)

1 34914-65

ACCESSION NR: AT5006101

S/0000/0000/0000/0023/0029

AUTHOR: Moskalev, Yu. I. (Professor); Semenov, D.I.; Buldakov, L.A.

TITLE: Distribution of yttrium-91, zirconium-95, and niobium-95 in rats after inhalation

SOURCE: Raspredeleniye, biologicheskoye deystviye, uskoreniye vyvedeniya radioaktivnykh izotopov (Distribution, biological effect, acceleration of the excretion of radioactive isotopes); sbornik rabot. Moscow, Izd-vo Meditsina, 1964, 23-28

TOPIC TAGS: yttrium-91, zirconium-95, niobium-95, radioisotope, inhalation, lung, intestine, skin, muscle, liver, blood, half-life

ABSTRACT: From 15 minutes to 6 hours after inhalation, most of the activity is found in the head (about 63.25%), gastrointestinal tract (about 64.35%), skin (29.67%), and lungs (about 11.77%). The lungs retained about 13% of the inhaled Y^{91} , Zr^{95} , and Nb^{95} . 15-17% of the yttrium, zirconium, and niobium was eliminated from the lungs with a biological half-life of 8.7-10.2 days, 47-55% of yttrium and zirconium with a biological half-life of 8.7-10.2 days, 47-55% of yttrium and zirconium with a biological half-life of 2.1 and 1.95 days, respectively, and 30-36% of the two isotopes with a biological half-life of 0.19 and 0.15 days. A comparison

Card 1/2

L 34914-65

ACCESSION NR: AT5006101

son of the distribution of the radioisotopes in relation to the route of entry showed that after inhalation the portion of yttrium resorbed from the lungs was distributed the same way as when it was injected intravenously. Soon after inhalation, more zirconium was found in the skeleton and less in the liver than after intravenous injection. The amount of niobium deposited in the skeleton, kidneys, and muscles was greater after inhalation than after intravenous injection, but less was deposited in the liver and blood. These differences in distribution were obliterated by the 16th day of the experiment. Orig. art. has: 2 figures, 4 tables.

ASSOCIATION: none

SUBMITTED: 10Apr64

ENCL: 00

SUB CODE: LS

NO REF SOV: 000

OTHER: 000

Card 2/2

SEMENOV, F.

We are shortening the time consumed by operations. Den. i Kred.
19 no.9:83-84 S '61. (MIRA 14:9)

1. Glavnyy bukhgalter Kuvshinovskogo otdeleniya Gosbanka Kalininskoy oblasti.
(Kuvshinovo (Kalinin Province)--Banks and banking--Accounting)

SEMENOV, F.D.

Microscopic structure of the digestive organs of domesticated reindeer.
Uch. zap. I Ak. un. no.1:133-135 '57. (MIRA 11:3)
(Reindeer) (Digestive organs--Mammals)

SEMENOV, F.D.

Physiology of lactation of cows on collective farms in Yakutia.
Uch.zap. IAGU No.6:19-24 '59. (MIRA 13:12)
(Lactation) (Yakutia--Dairying)

FEYTSARENKO, A.M.[Feitsarenko, A.M.], otv. red.; PREDKO, I.G.[Predko, I.H.], red.; GRIN'KO, T.F.[Hrin'ko, T.F.], kand. sel'khoz. nauk, red.; DEMCHENKO, P.K., red.; DOBROVOL'SKIY, I.M.[Dobrovols'kyi, I.M.], red.; LIMAR, F.M.[Lymar, F.M.], red.; SEMENOV, F.G.[Semenov, F.H.], FEYTSARENKO, G.I.[Feitsarenko, H.I.], kand. sel'khoz. nauk, red.; VAS'KOVSKIY, Yu.I.[Vas'kovs'kyi, IU.I.], red.; VIDONYAK, A.P. [Vidoniak, A.P.], tekhn. red.

[Sixty years of the Cherkassy (formerly Verkhnyaki) State Agricultural Experiment Station; collection of scientific papers] 60 rokiv Cherkas'koi (kol. Verkhniats'koi) derzhavnoi sil's'kohospodars'koi doslidnoi stantsii; zbirnyk naukovykh prats'. Kyiv, Vyd-vo Ukrain's'koi akad. sil's'kohospodars'kykh nauk, 1961. 145 p. (MIRA 15:2)

1. Cherkassy. Derzhavna sil's'kohospodars'ka doslidna stantsiya.
2. Direktor Cherkasskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Feytsarenko, A.M.).
3. Zavedyushchiy otdelem selektsii sakharnoy svukly Cherkasskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Grin'ko).

(Continued on next card)

FEYTSARENKO, A.M.---(continued) Card 2.

4. Zaveduyushchiy otdelom obrabotki pochvy Cherkasskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Demchenko). 5. Zaveduyushchiy otdelom skotovodstva Cherkasskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Limar). 6. Zaveduyushchiy otdelom selektsii zernovykh kul'tur Cherkasskoy gosudarstvennoy sel'skokhozyaystvennoy opytnoy stantsii (for Feytsarenko, G.I.).
(Cherkassy--Agricultural experiment stations)

SEMENOV, F.M.

Valuable manual on weaving ("Arrangement, maintenance and tuning of Jacquard looms." Reviewed by F. M. Semenov). Tekst. prom. 21
no.1:89-90 Ja '61. (MIRA 14:3)

1. Zaveduyushchiy proizvodstvom fabriki imeni Dzershinskogo.
(Jacquard weaving)

USSR/Metals - Electric Spark Machining Aug 51

"Drilling Without a Drill," G. Semenov

"Maika 1 Zhizn'" Vol XVIII, No 8, pp 37, 38

Briefly describes new machine for drilling holes of 0.15-0.25 mm diam in head of diesel spray nozzle. Spark discharge, occurring between brass wire anode and workpiece, causes melting and partial evaporation of metal in small area of discharge zone. Molten metal is dissipated in liquid medium in which both electrodes are submerged. Electric circuit provides for transformation of direct current into impulses, resulting in series of spark discharges

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USSR/Metals - Electric Spark Machining Aug 51
(Contd)

which quickly destroy metal, permitting penetration of wire. Drilling of each hole takes 40-60 sec. Machine may drill 60-70 holes per hr. Due to automatization of process, 8-10 machines may be served by single operator.

203196

SEMENOV, G.

1.2300 only 2208, 2308

S/025/60/000/009/009/009
A/166/A029

AUTHOR: Semenov, G.

TITLE: Electronic Arc Welds

PERIODICAL: Nauka i zhizn', 1960, No. 9, pp. 78 - 79

TEXT: The Problem Laboratory of the Vyssheye tekhnicheskoye uchilishche imeni Bauman (Technical College imeni Baumann) and the Moskovskiy energeticheskiy institut (Moscow Power Engineering Institute) has devised an effective method of welding such high-melting metals as tungsten, molybdenum and titanium. Welding is effected in a vacuum to prevent the formation of oxides. The apparatus uses an electronic arc and focuses the electron stream into a narrow beam which can be applied lengthwise or crosswise to the part being welded. The strength of the weld is equal to that of the basic metal. The new welding method will shortly be handed over for industrial use.

Card 1/1

SEMENOV, G.

Effective settler. Nauka i zhizhn' 27 no.2:66 P '60.
(MIRA 13:6)

(Acrylamide) (Fertilizers and manures)

SEMENOV, G. [Semenov, H.]

Some shortcomings of interfarm construction enterprises. Sil'.
bud. 13 no.11:14-15 N '63. (MIRA 17:1)

Semenov, G.

USSR/Engineering - Polishing

Card 1/1 Pub. 77 - 15/23

Authors : Semenov, G.

Title : Flexible abrasives

Periodical : Nauka i Zhizn' 21/10, page 31, Oct 1954

Abstract : An account is given of the invention of an abrasive material with a base of artificial rubber into which abrasive powder is mixed and the mixture then applied to a wheel or tape for polishing surfaces of a very uneven nature.

Institution : ...

Submitted : ...

AUTHOR: Semenov, G.

SOV/29-58-8-4/23

TITLE: The Home Air Conditioner (Domashniy konditsioner)

PERIODICAL: Tekhnika molodezhi, 1958, Nr 8, pp. 6-6 (USSR)

ABSTRACT: The author describes an air-conditioner, which is being produced by one of the Azerbaijan machine-building plants. This air conditioner can easily be built into an opening in a wall or into a window. It sucks up the air in the room and conveys it into the open. At the same time it conveys previously purified air, which has previously been heated or cooled to a certain temperature into the room. It purifies the air from dust and reduces the moisture it contains. The cooling device of this conditioner is the same as that of a compressor-refrigerator. It operates nearly without any noise and consumes about 1 kW of current per hour. There is 1 figure.

1. Air conditioning equipment--Performance

Card 1/1

The City of Youth

SOV/25-58-12-14/40

The town of Suvorov is one of the youngest towns in the Soviet Union. More than 400 buildings have been built since its founding several years ago. There are 3 photos and 4 drawings.

Card 2/2

SEMENOV, G.

Grapes in the Maritime Territory. Nauka i pered. op. v sel'khoz.
8 no.10:69-71 0 '58. (MIRA 11:11)

1. Direktor Primorskogo plodovo-yagodnogo opytnogo polya.
(Maritime Territory--Viticulture)

(5.1320

SOV/25-60-2-24/42

AUTHOR: Semenov, G.

TITLE: An Effective Precipitator

PERIODICAL: Nauka i zhizn', 1960, Nr 2, p 66 (USSR)

ABSTRACT: The author discusses the problem of preventing great losses of valuable phosphorite substances (up to 10 to 12%) when producing phosphorite fertilizer from phosphorite ore. For this purpose, the Vsesoyuznyy nauchno-issledovatel'skiy institut galurgii (All-Union Scientific-Research Institute for Halurgy) has suggested a new polymer - polyacrylamide (poliakrilamid) - which contributes to a quick precipitation of suspensions in suspended matter. In case a 1/2 % polyacrylamide solution is added to the pulp, all solid particles quickly precipitate on the bottom, i.e. 120 times faster than the usual way. For 1 ton of fertilizer, only 50 g of the new substance are necessary. Thus, from phosphorite ore, valuable fertilizer for 2.5 million rubles can be obtained annually. This polymer

Card 1/2

3(5)

SOV/25-59-9-45/49

AUTHOR: Semenov, G. (Moscow)

TITLE: They Write to Us

PERIODICAL: Nauka i zhizn', 1959, Nr 9, pp 78 - 79 (USSR)

ABSTRACT: This article deals with a new method for investigating the Earth's crust with the application of radiowaves in the band from 10 - 50 meters. The method has been developed by the Vsesoyuznyy nauchno-issledovatel'skiy institut tekhniki razvedki (All-Union Scientific-Research Institute of Prospecting Techniques). At the place under investigation, two wells are drilled, in one of which a transmitting device is let down and in the other, receiving radio equipment. Both devices are enclosed in a hermetically sealed cylinder 1.5 m long and of a diameter of 6-8 cm. Each of the devices is equipped with a downward antenna. A transmitter of a total capacity of 500 watts is sufficient for the penetration of 200 m of rocks. With the aid of this apparatus, the geologists succeeded not only in deter-

Card 1/2

They Write to Us

SOV/25-59-9-45/49

mining the character of the occurrence but also in ascertaining the depth of the ore seam located between the wells with a precision of up to some tens of meters. Now the Institute is charged with the development of a radio-location type apparatus which will send radiowaves with powerful short impulses which are 1000 times more intense than usual radio-waves.

Card 2/2

SEMENOV, G., inzh.

Roof made of cold mastic. Na stroi. Ros. 4 no.5:16 My '63.
(MIRA. 16:5)

(Roofing, Bituminous)

SAZONOV, N.F., inzh.; SEMENOV, G.A., inzh.

Reinforcement of slopes of earth structures. Energ.stroi. no.5:
124-129 '58. (MIRA 12:5)

1. Nachal'nik otdela OISMK (for Sazonov). 2. Starshiy inzhener
OISMK (for Semenov).
(Volga Hydroelectric Power Stations--Earthwork)

SEMINOV, G. A.
KOTLER, Yu.; SEMENOV, G. A.

Story of a little knot. Rabotnitsa 34 no.12:7-8 D '56.
(MLRA 9:12)
(Kuntsevo--Weaving)

IPPOLITOV, I.K.; ZOTOV, N.D.; SEMENOV, G.A.

Specialization of loom filling. Tekst.prom. 19 no.8:72-73
Ag '59. (MIRA 13:1)

1. Glavnyy inzhener Gorodkovskoy fabрики (for Ippolitov).
2. Zaveduyushchiy tkatskim proizvodstvom Gorodkovskoy fabрики
(for Zotov). 3. Starshiy master Gorodkovskoy fabрики (for
Semenov).

(Looms)

USSR/Physics - Heat Transfer

FD-3232

Card 1/1 Pub. 41-13/22

Author : D'yakonov, G. K. (deceased) and Semenov, G. A., Ioshkar-Ola

Title : Heat Transfer in a Layer of Spherical Particles under Steady State Conditions

Periodical : Izv. AN SSSR, Otd. Tekh. Nauk 7, 109-118, Jul 55

Abstract : Gives brief review of literature on heat transfer in a layer of solid particles under steady state conditions. Discusses principles of diffusion method in the approach to problems of steady state heat transfer in a layer of heavy particles. Describes experimental apparatus and experimental procedure, in which the process of heat transfer was in equilibrium, and the coefficients of heat transfer were obtained from direct measurements of the temperatures of the gas and the surface of the solid particles. Three graphs; one illustration; formulae. Twenty references, 17 USSR.

Institution : Kazan' Chemicotechnological Institute

Submitted : 11 April 1955

SOV/124-58-8-9007

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 100 (USSR)

AUTHOR: Semenov, G.A.

TITLE: On the Hydraulic Resistance of a Vent Pipe Filled With Small Spherical Bodies (K voprosu o gidravlicheskom soprotivlenii sharovoy nasadki)

PERIODICAL: Sb. tr. Povolzhsk. lesotekhn. in-t, 1956, Nr 50, pp 137-150

ABSTRACT: The author comments critically on the results that have been obtained by previous investigators in the matter of determining the hydraulic resistance in the flow of a gas or liquid through a layer comprised of nonuniform pieces or particles (i.e., discrete masses) of a solid substance, the layer in question being bounded by walls. He considers that the formulae evolved hitherto share the great defect of not taking fully into account all the criteria of geometrical similarity and that the formulae, therefore, are not applicable generally, being suited for calculation of the hydraulic losses in special individual cases only. A description is given of experiments which the author has conducted on determination of the hydraulic resistance that develops during the passage of air through a vent pipe filled with

Card 1/2

On the Hydraulic Resistance of a Vent Pipe (cont.)

SOV/124-58-8-9007

small spherical solid bodies. A diagram of the experimental apparatus is included. The procedures for analyzing the experimental data are set forth, and an account is given of the results obtained. The equation which the author obtains for the hydraulic resistance of a spherical vent has the general form

$$= \left(\frac{A_1}{R_{\text{mean}}} + B_1 \right) (D_k/d)^{0.065}$$

wherein R_{mean} is the Reynolds number, computed for the flow velocity, referred to the cross-sectional area of the column formed by the flowing air (the fluid involved), and for the diameter d of the spherical exhaust vent; D_k is the diameter of the column; A_1 and B_1 are constant coefficients [$A_1 = 7.5 \times 10^3$ and $B_1 = 18$ under flow conditions characterized by Reynolds number values (R) below 365, and $A_1 = 4.6 \times 10^3$ and $B_1 = 26$ when R is greater than 365]. It is noted that the range of Reynolds-number values from 40 to 620 corresponds to the range of transitional flow conditions.

N. A. Zaks

Card 2/2

SEMENOV, G. A.

231T86

USSR/Meteorology - Anemograph

Oct 52

"Deficiencies in Operation of Anemographs With Electric Power Supply," G. A. Semenov, Latvian Admin of Hydrometeorol Sv

"Meteorol i Gidrol" No 10, p 47

Semenov states that the principal deficiency of anemographs is oxidation of contacts of the elec circuit. Finds this deficiency can be eliminated by improvements in the commutator switches of wind direction leads; and in the spring, by closing the circuit of wind velocity. Notes that he

231T86

succeeded in securing continuous operation of the equipment in Baku for 5 yrs.

231T86

SEMENOV, G.A.

Ruler for determining angular measurements. Meteor. i gidrol.
no.2:48 F '56. (MLRA 9:6)

(Measuring instruments)

SEMENOV, G.A.; TURKINA, M.Ya.; SHIRYEV, B.V.

Istopic exchange during the decarboxylation of deuterated
benzoic acid. Zhur. ob. khim. 31 no. 2:641-644 F '61.

(MIRA 14:2)

(Benzoic acid) (Deuterium)

S/078/61/006/008/016'018
B127/B226

25516

54210
AUTHORS:Shchukarev, S. A., Semenov, G. A., Rat'kovskiy, I. A.

TITLE:

Determination of pressure of saturated gallium-oxide vapor

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 8, 1961, 1973

TEXT: The authors worked according to the flow method in an oxygen atmosphere at 1523 - 1682°C. The experiments were conducted in a platinum boat attached to the end of a movable alundum bar. This arrangement was contained in an alundum tube and fixed in a furnace with a tungsten spiral in an alcohol atmosphere. The temperatures of the samples used were measured with a platinum - platinum-rhodium thermocouple and a $\Pi\Pi-1$ (PP-1) potentiometer with optical pyrometer. The gas production rate was measured at 1562 - 1592°C. The values of the molar Ga_2O_3 concentration obtained by extrapolating for zero velocity, and those measured at a gas production rate of 11 - 13 ml/min did not differ by more than 6%. The results obtained are shown in a figure, and may be written as: $\log = - \frac{27098}{T} + 13.339$ mm Hg. In the vapor phase, Ga_2O_3 proved monomeric. Enthalpy and

Card 1/3

USSR/Physical Chemistry - Thermodynamics, Thermochemistry, Equilibria, Physical-Chemical Analysis, Phase Transition. B-8

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 373

The experimental results satisfy the equation $\log P$
(mm of merc. col.) = $-19400 / T + 8.69$. The computed
sublimation heat of BaO is 89 kcal per mole.

Card 2/2

Direct Mass Spectrometric Determination of Deuterium
Content of Deuterium Benzene

SOV/32-24-9-10/53

perimental results as well as a formula for calculating the
percentage of the whole deuterium content are given.
There are 2 figures, 4 tables, and 6 references.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii (State Institute
of Applied Chemistry)

Card 2/2

SOV/20-120-5-36/67

AUTHORS: Shchukarev, S. A., Semenov, G. A.

TITLE: Mass-Spectrometer Investigation of Germanium Dioxide Sublimation
(Mass-spektrometricheskoye izucheniye sublimatsii dvuokisi germaniya)

PERIODICAL: Doklady Akademii nauk SSSR, Vol. 120, Nr 5,
pp. 1059 - 1061 (USSR) - 1977

ABSTRACT: The semiconductor properties of germanium are highly dependent upon its surface state as a surface film is formed by its compounds. They arouse a growing interest. The vapor tension of germanium and its sublimation heat have hitherto not been measured at all. From the point of view mentioned at the beginning the knowledge of the thermodynamical characteristics of germanium dioxide is very essential. Davydov (Ref 1) ascribed an abrupt change of the sublimation temperature between 886 - 980° and 1025 - 1078° to a phase transition at 1000°. In previous experiments the amount of the sublimation heat of silver was determined. In the mass spectrum of the silver vapors only Ag⁺-ions were found. Table 1 shows data on the mass spectrum of the vapor above GeO₂. The intensities which correspond to

Card 1/4

Mass-Spectrometer Investigation of Germanium Dioxide
, Sublimation

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the individual germanium isotopes were added and referred to the stream of ions of Ge_3O_3^+ the intensity of which was set equal to unity. Ge_3O_2^+ and GeO_2^+ -ions were observed as well the ion current of which amounted to approximately 0,5% of the amount of the current of Ge_3O_3^+ . Figure 1 shows a part of the mass spectrum which corresponds to the ion groups Ge_2O_2^+ and Ge_3O_3^+ . For several groups of the spectrum the enthalpies in kcal/mol were determined and calculated according to the slope of the straight line $\lg(I^+T) = f(\frac{1}{T})$. Within the limits of experimental error the authors did not notice breaks in the straight line. The magnitude of the vapor tension may be evaluated from the comparison of the ion currents of Ge_3O_3^+ and Ag^+ . The ratio of the effective cross-sections of the ionization for the Ge_3O_3 -molecule and the Ag-atom approaches the value of 4:1 (Ref 6). In this case the following assumption

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$I_1^+ T_1 = \frac{I_2^+ T_2}{4} = kP$ is justified. $I_1^+ T_1$ and $I_2^+ T_2$ are in a corresponding ratio to the ion currents of Ag^+ and $Ge_3O_3^+$. The equation of this type applies to the ion source used here (which did not differ on principle from that of Aldrich, Ref 2), e.g. in the case of $T_1 = 1073^\circ$ and $T_2 = 1338^\circ$. With silver a vapor of $6 \cdot 10^{-5}$ torr (Refs 4,5) corresponds to a temperature of 800° . As a consequence it will be of an order of $2 \cdot 10^{-2}$ torr for Ge_3O_3 at 1069° . Thus the composition of the gaseous phase in the evaporation of germanium dioxide proves to be analogous to that found in the evaporation of SiO_2 (Refs 7,8). There are 1 figure, 1 table, and 9 references, 3 of which are Soviet.

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ASSOCIATION: Leningradskiy gosudarstvennyy universitet im.A. A.Zhdanova
(Leningrad State University imeni A.A.Zhdarov)

PRESENTED: February 5, 1958, by A.N.Terenin, Member, Academy of Sciences,
USSR

SUBMITTED: January 24, 1958

1. Germanium oxides--Sublimation
2. Germanium vapors--Mass spectrum
3. Ionic current--Measurement
4. Semiconductors--Properties

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SOV/78-4-11-43/50

5(2)

AUTHORS:

Shchukarev, S. A., Semenov, G. A., Frantseva, K. Ye.

TITLE:

The Mass Spectrometric Investigation of the Sublimation of Some Oxides of Vanadium and Niobium

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 11, p 2638 (USSR)

ABSTRACT:

The composition of the vapor over VO_2 , V_2O_3 and NbO_2 was investigated in the evaporation of the oxides on a platinum film in an ion source as described in reference 1 at an ionization voltage of 50 v. In the evaporation of VO_2 and NbO_2 , the ions VO_2^+ and NbO_2^+ predominate, the ions VO^+ in the case of V_2O_3 . A table gives the intensities of the ionization currents at 1500 - 1800°K as well as the sublimation energies. The deviation of the sublimation energy found for V_2O_3 with 111 ± 2 kcal/mol from the data by J. Berkovitz, W. A. Chupka and M. G. Inghram (Ref 2) for the process $[\text{VO}] \longrightarrow (\text{VO})$

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is assumed to be due to the circumstance that no VO develops in the solid phase of V_2O_3 , and the value found is influenced by secondary processes. The dissociation energy of VO_2 was found to be in good agreement with reference 2 and amounting to 12.7 ev. The dissociation energy of NbO_2 was equal to 14.8 ± 0.5 ev. There are 1 table and 2 references, 1 of which is Soviet.

SUBMITTED: May 11, 1959

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5(2), 5(4)
AUTHORS:

Semenov, G. A., Zonov, Yu. A.

SOV/75-14-1-29/32

TITLE:

On the Problem of the Mass-Spectrometric Analysis of the Isotopic Composition of Boron (K voprosu o mass-spektrometricheskom analize izotopnogo sostava bora)

PERIODICAL:

Zhurnal analiticheskoy khimii, 1959, Vol 14, Nr 1, pp 137-138 (USSR)

ABSTRACT:

For the mass-spectrometric determination of the isotopic composition of boron boron trifluoride is generally used. When investigating the isotopic composition in B_2O_3 and in boric acid it is, however, advisable not to convert these compounds into BF_3 , but immediately to investigate them by means of mass-spectrometric analysis (Ref 1). The authors used the mass spectrometers MS-1 and MS-4. Measurements were carried out by the single-beam method. The ionizing device used differs from previously described ion sources (Refs 3,4) by the fact that the band for vaporization is made from platinum and that an indentation shaped like a groove is punched into its surface. The optimum temperature for vaporization is 1000 - 1200°. In the mass spectrum of the vapors over

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boron trioxide there are the following ions: $B_2O_3^+$, $B_2O_2^+$, BO^+ and B^+ in a ratio of 19 : 3.1 : 2.2 : 1. These data agree well with data given in publications (Ref 2). Ions containing more than 2 atoms of boron were not found. The isotopic composition of boron was determined by using the ions $B_2O_3^+$ and B^+ . The results (ratio $B^{11} : B^{10}$) are given in a table. The ratio $B^{11} : B^{10}$ in natural boron trioxide is on the average 4.17. The isotopic composition of boron in B_2O_3 was also determined in the manner that the oxide was converted into the phenyldiazonium fluoborate (Ref 5), which was then thermally decomposed. The boron trifluoride formed was analyzed in the mass spectrometer. Also these results are given. It was found that determinations carried out according to different methods, at different times, and in different mass spectrometers (MS-1 and MS-4) are reproducible with sufficient accuracy. The method worked out was used also for analysis of boron trioxide with varied isotopic composition. The results obtained were compared with measurements which

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had been carried out with BF_3 as a working substance.

Agreement is satisfactory. As the method described is simple and furnishes sufficiently exact and reproducible results, it can be recommended for the isotope analysis of boron. There are 2 tables and 5 references, 4 of which are Soviet.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet im. A. A. Zhdanova
(Leningrad State University imeni A. A. Zhdanov)

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